

06-14-00



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Address to:
Box Patent Application
Assistant Commissioner for Patents
Washington, D.C. 20231

Attorney's Docket No. SONY-T0708
First Named Inventor YOUJI KAWAMOTO

UTILITY PATENT APPLICATION TRANSMITTAL
(under 37 CFR 1.53(b))

SIR:

Transmitted herewith for filing is the patent application entitled:
COMMUNICATION SYSTEM, NETWORK SYSTEM, INFORMATION CONTROLLER AND TERMINAL EQUIPMENT

CERTIFICATION UNDER 37 CFR § 1.10

I hereby certify that this New Application and the documents referred to as enclosed herein are being deposited with the United States Postal Service on this date June 13, 2000, in an envelope bearing "Express Mail Post Office To Addressee" Mailing Label Number EL387308127US addressed to: Box Patent Application, Assistant Commissioner for Patents, Washington, D.C. 20231.

Susan Ozanne
(Name of person mailing paper)

Susan Ozanne
(Signature)

Enclosed are:

1. ☒ Transmittal Form (two copies required)
2. The papers required for filing date under CFR § 1.53(b):
 - i. 50 Pages of specification (including claims and abstract);
 - ii. 18 Sheets of drawings.
☒ formal ☐ informal
3. Declaration or oath
 - a. ☒ Unsigned

ACCOMPANYING APPLICATION PARTS

4. ☐ An assignment of the invention to Sony Corporation is attached (including Form PTO-1595).
 - i. ☐ 37 CFR 3.73(b) Statement (when there is an assignee)
5. ☒ Power of Attorney (unsigned)
6. ☐ An Information Disclosure Statement (IDS) is enclosed, including a PTO-1449 and copies of ☐ references.
7. ☒ Preliminary Amendment.
8. ☒ Return Receipt Postcard (MPEP 503 -- should be specifically itemized)
9. FOREIGN PRIORITY
 - [x] Priority of application nos. P11-178994 and P11-178995 both filed on June 24, 1999 in Japan are claimed under 35 USC 119.

The certified copy of the priority applications:

- ☒ are filed herewith; or
☐ has been filed in prior application no. ☐ filed on ☐, or
☐ will be provided.

☐ English Translation Document (if applicable)

10. FEE CALCULATION

- a. ☐ Amendment changing number of claims or deleting multiple dependencies is enclosed.

CLAIMS AS FILED

	Number Filed	Number Extra	Rate	Basic Fee (\$690)
Total Claims	15 - 20	* 0	x \$18.00	0
Independent Claims	5 - 3	* 2	x \$78.00	156.00
<input type="checkbox"/> Multiple dependent claim(s), if any			\$260.00	0

*If less than zero, enter "0".

Filing Fee Calculation \$846.00

50% Filing Fee Reduction (if applicable) \$

11. Small Entity Status

- a. ☐ A small entity statement is enclosed.
b. ☐ A small entity statement was filed in the prior nonprovisional application and such status is still proper and desired.
c. ☐ is no longer claimed.

12. Other Fees

- ☐ Recording Assignment [\$40.00] \$0
☐ Other fees
Specify _____ \$

Total Fees Enclosed \$846.00

13. Payment of Fees

- ☒ Check(s) in the amount of \$ 846.00 enclosed.
☐ Charge Account No. 12-1420 in the amount of \$ ____.
A duplicate of this transmittal is attached.

14. All correspondence regarding this application should be forwarded to the undersigned attorney:

Charles P. Sammut
Limbach & Limbach L.L.P.
2001 Ferry Building
San Francisco, CA 94111
Telephone: 415/433-4150
Facsimile: 415/433-8716

15. Authorization to Charge Additional Fees

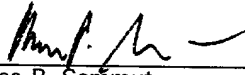
- ☒ The Commissioner is hereby authorized to charge any additional fees (or credit any overpayment) associated with this communication and which may be required under 37 CFR § 1.16 or § 1.17 to Account No. 12-1420. **A duplicate of this transmittal is attached.**

LIMBACH & LIMBACH L.L.P.

June 13, 2000
(Date)

Attorney Docket No. SONY-T0708
[S00P0708US00]

By:


Charles P. Sammut
Registration No. 28,901
Attorney(s) or Agent(s) for Applicant(s)

PATENT

-1-

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of)	Group Art Unit: Unknown
)	
YOUJI KAWAMOTO ET AL.)	Examiner: Unknown
)	
Application No. Not Assigned)	<u>PRELIMINARY AMENDMENT</u>
)	
Filed: Herewith)	2001 Ferry Bldg.
)	San Francisco, CA 94111
For: COMMUNICATIONS)	Ph.: 415-433-4150
SYSTEM, NETWORK)	
SYSTEM, INFORMATION)	
CONTROLLER AND)	
TERMINAL EQUIPMENT)	
)	
)	
)	

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Please preliminarily amend the above identified application as follows:

In the Specification

Page 4, line 8, please change "Fig. 8 is a diagrammatic view" to
--Figs. 8A and 8B are diagrammatic views--.

REMARKS

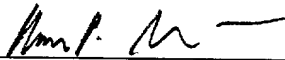
The above change conforms the specification to the drawings and/or correct typographical errors.

It is submitted that all of the claims are in condition for allowance and the Examiner's early examination and consideration are respectfully requested.

Respectfully submitted,

LIMBACH & LIMBACH L.L.P.

By:



Charles P. Sammut
Reg. No. 28,901

June 13, 2000
Our File: SONY-T0708

095407.0360

COMMUNICATION SYSTEM, NETWORK SYSTEM,
INFORMATION CONTROLLER AND TERMINAL EQUIPMENT

BACKGROUND OF THE INVENTION

FIELD OF THE INVENTION

The present invention relates to a communication system, an information controller, a network system, and a terminal equipment and more particularly, is suitably applied to a communication system, a network system, an information controller and a terminal equipment for supplying various kinds of information to a user employing, for instance, a portable terminal equipment through a terminal equipment existing in the vicinity of the user.

DESCRIPTION OF THE RELATED ART

Conventionally, in the case where a user has employed a variety of terminal equipment connected to a network, the user has connected his terminal equipment to a server on the network and has received various information from the server.

In this case, the user has registered the terminal equipment used by himself and the user using it in the server, so that the server can confirm the terminal equipment to which it needs to transmit information and the user employing the terminal equipment.

However, in the above described network system, it has been necessary for the user to register the terminal unit used by

himself or herself in the server every time he or she uses the terminal equipment, so that its maneuverability has been undesirably deteriorated.

SUMMARY OF THE INVENTION

identifying the user as available environmental information and transmits provided information to the terminal equipment specified by the registered available environmental information, so that the environment of the terminal equipment used by the user can be readily grasped.

Accordingly, the provided information can be transmitted to the terminal equipment corresponding to the provided information in the terminal equipment environment where the user is present and the user can surely read the provided information.

The nature, principle and utility of the invention will become more apparent from the following detailed description when read in conjunction with the accompanying drawings in which like parts are designated by like reference numerals or characters.

BRIEF DESCRIPTION OF THE DRAWINGS

In the accompanying drawings:

Fig. 1 is a diagrammatic view showing the entire configuration of a network system according to the present invention;

Fig. 2 is a block diagram showing the configuration of a cellular phone;

Fig. 3 is a block diagram showing the configuration of a television set;

Fig. 4 is a diagrammatic view showing a registration sequence to a server;

Fig. 5 is a diagrammatic view for explaining when the information of terminal equipment connected to a network are collected;

Fig. 6 is a diagrammatic view for explanation when a user is automatically detected;

Fig. 7 is a diagrammatic view showing a method for widening the segment of a local network;

Fig. 8 is a diagrammatic view showing a security sequence;

Fig. 9 is a diagrammatic view showing an entire configuration when a terminal equipment used by the user is registered in a server from a cellular phone;

Fig. 10 is a diagrammatic view showing a registration sequence in the server;

Fig. 11 is a diagrammatic view showing the registration processing of the pieces of terminal equipment;

Fig. 12 is a diagrammatic view showing a network system using a memory card;

Fig. 13 is a block diagram showing the configuration of the memory card;

Fig. 14 is a diagrammatic view showing the memory map of the memory card;

Fig. 15 is a diagrammatic view showing data format in the memory card;

Fig. 16 is a block diagram showing the configuration of a television set having a memory card interface;

Fig. 17 is a diagrammatic view showing a registration sequence to the server;

Fig. 18 is a diagrammatic view for explaining the decision of a transmission path when information is transmitted from the terminal equipment of a transmitter to the terminal equipment of a receiver; and

Fig. 19 is a diagrammatic view showing a sequence for determining the transmission path at the time of transmitting information from the terminal equipment of the transmitter to the terminal equipment of the receiver.

DETAILED DESCRIPTION OF THE EMBODIMENT

Preferred embodiments of this invention will be described with reference to the accompanying drawings:

In Fig. 1, reference numeral 10 generally denotes a network system. An Internet service provider 25, a server system 20 and a company network system 50 formed by using a Local Area Network (LAN) in a company or the like are connected together via the Internet 13.

To the Internet service provider 25, is connected a domestic network system 30 through a public wire network 15 such as a Public Switched Telecommunication Network (PSTN) or an Integrated Service Digital Network (ISDN) or the like.

The domestic network system 30 is designed to connect a facsimile telephone set 37 and a television set 32 to the public

wire network 15 through a communication interface 31 as interface means such as a Modulator-Demodulator (MODEM).

To the television set 32, connected are a video tape recorder 33, an audio reproducing system 34, a personal computer 35, a printer 36 and the facsimile telephone set 37 by a data bus 41 of, for instance, IEEE1394 standard. Therefore, respective terminal equipment (the television set 32, the video tape recorder 33, the audio reproducing system 34, the personal computer 35, the printer 36 and the facsimile telephone set 37) can have access to the Internet service provider 25 through the public wire network 15, respectively, and further can have access to the server system 20 through the Internet 13.

Further, the company network system 50 has a personal computer 53 and a printer 54 connected together by the LAN 55 and these terminal equipment are connected to the Internet 13 through a fire wall 51 and a router 52 and are designed to transmit and receive information between the Internet 13 and them on the basis of a communication system employing a Transmission Control Protocol/Internet Protocol (TCP/IP). Accordingly, the terminal equipment of the company network system 50 can respectively have access to the Internet service provider 25 and the server system 20.

The server system 20 has a server computer 22 and a data base 21. The server computer 22 is adapted to register the personal information of a user, a terminal equipment which is being used by

the user and other usable terminal equipment connected to the terminal equipment which is being used in the data base 21.

Here, all or some of a plurality of terminal equipment provided in the domestic network system 30 or the company network system 50 are provided with a local radio interface for performing a local radio communication between a cellular phone 70 peculiarly possessed by the user and the local radio interface. When the user having the cellular phone 70 comes near to the terminal equipment, the terminal equipment registers in the server system 20 a state that the user is located in a position where he can use the terminal equipment.

Specifically, Fig. 2 shows a configuration of the cellular phone 70 in which a CPU 70A, a memory 70B, a transmitting and receiving circuit (RF) 70E for transmitting and receiving signals to and from the communication interface 31, a base band processing part 70D for converting a Radio Frequency (RF) signal received in the transmitting and receiving circuit 70E into a base band signal and converting the base band signal to be transmitted into an RF signal, a Man Machine Interface (MMI) 70F as the interface of a microphone 70G and a speaker 70H, a display 70I and a keyboard 70J are connected to a data bus BUS.

The CPU 70A is designed to execute various kinds of operations on the basis of operation programs stored in the memory 70B and to control respective circuits in accordance with the operations. The contents of various types of operations of the

CPU 70A are displayed on the display 70I composed of a liquid crystal panel or the like as required.

When the user inputs the telephone number of a desired called party, the keyboard 70J transmits data indicating the telephone number to the CPU 70A. The CPU 70A transmits a connection request to the called party represented by the telephone number inputted by the user through the transmitting and receiving circuit 70E. At this time, a public radio network 14 (Fig. 1) connects a line to the called party in accordance with the response of the called party. When the line is connected to the called party, the transmitting and receiving circuit 70E supplies an RF signal received from the called party through an antenna (not shown) to the base band processing part 70D in which the RF signal is converted into the base band signal. The base band processing part 70D supplies the base band signal thus converted to the MMI 70F, so that an audio signal received from the called party is outputted from the speaker 70H as a voice.

Further, when the user inputs the voice through the microphone 70G, the MMI 70F supplies the input audio signal supplied from the microphone 70G to the base band processing part 70D in which the base band signal is converted into the RF signal. Then, the base band processing part 70D transmits the converted RF signal to the public radio network 14 (Fig. 1) through the transmitting and receiving circuit 70E to transmit the RF signal to the called party of which the line is connected. Thus, the

user employing the cellular phone 70 can transmit and receive the conversation or various kinds of information between the called party and the user.

In this case, the cellular phone 70 is provided with a local radio interface 70T for performing a specific local radio communication between the respective terminal equipment of the domestic network system 30 and the company network system 50. The local radio interface 70T receives identifier information peculiar to a network, which is usually broadcast, from the terminal equipment. The CPU 70A detects the current position of the cellular phone 70 on the basis of the identifier information received in the local radio interface 70T.

In other words, at least one terminal equipment of the respective terminal equipment in the domestic network system 30 and at least one terminal equipment of the respective terminal equipment in the company network system 50 are provided with the local radio interface for performing the local radio communication with the cellular phone 70 to constantly broadcast the identifier information peculiar to the network.

In case of this embodiment, in the domestic network system 30, the television set 32 has a local radio interface. In the company network system 50, the personal computer 53 has a local radio interface.

Specifically stated, in the television set 32, a CPU 32A, a memory 32B, a communication interface 32D for transmitting data to

and receiving from the communication interface 31 (Fig. 1), a receiving circuit (RF) 32E, a local radio interface 32T for transmitting data to and receiving it from the cellular phone 70 and an output part 32F connected to the data bus BUS, as shown in Fig. 3. The CPU 32A is adapted to carry out various kinds of operations in accordance with operation programs stored in the memory 32B and to control the respective circuits in accordance with the operations.

The Radio Frequency (RF) 32E receives a television broadcast wave S_{RF} received by the antenna (not shown) and transmits a receiving signal S_{32E} thus received to the output part 32F. The output part 32F applies an intermediate frequency amplification processing and a video detection processing or the like to the receiving signal S_{32E} to generate a television video signal S_{TV} and transmit it to a Cathode Ray Tube (CRT) display 32G. Thus, the television broadcast received by the RF 32E is visually displayed on the display screen of the CRT 32G.

Further, the television set 32 receives various kinds of contents information supplied from the Internet service provider 25 through the public wire network 15 and the communication interface 31 in the communication interface 32D, stores them in the memory 32B, supplies them to the CRT 32G through the output part 32F and visually displays them thereon.

Here, the local radio interface 32T of the television set 32 constantly broadcasts identifier information peculiar to the

domestic network 30 to which the television set 32 is connected to inform the cellular phone 70 having the local radio interface 70T that the position thereof is located within an area in which the terminal equipment of the domestic network system 30 can be used.

In the cellular phone 70, when the user operates the keyboard 70J (Fig. 2) to designate a registration request for the server system 20, the CPU 70A of the cellular phone 70 executes a registration processing to the server shown in Fig. 4.

Specifically, referring to Fig. 4, when the execution of a registration request processing is inputted and designated to the cellular phone 70, the CPU 70A (Fig. 2) of the cellular phone 70 receives the identifier information broadcasted from the television set 32 in an area where the cellular phone 70 exists at present to ensure a radio communication path between the local radio interface 32T (Fig. 3) of the television set 32 and the CPU 70A.

Then, the CPU 70A transmits registration processing designating information for requesting the server system 20 to execute the registration processing to the television set 70 as a communication object whose radio communication path is ensured at that time. The CPU 32A of the television set 32 receiving the registration processing designating information from the cellular phone 70 transmits registration request information to the communication interface 31 of the domestic network system 30.

In the registration request information, there are included a user ID and a password contained in the registration processing designating information transmitted from the cellular phone 70, the terminal equipment ID of the television set 32 read from the memory 32B of the television set 32, the ID information (terminal equipment ID) of a usable terminal equipment of other terminal equipment (the video tape recorder 33, the audio reproducing system 34, the personal computer 35, the printer 36 and the facsimile telephone set 37) of the domestic network system 30 connected to the television set 32 by the IEEE1394 data bus 41 and individual terminal equipment information for each terminal equipment. The terminal equipment information includes address, equipment classification, and terminal capacity information (the decode system, the display capacity, etc. of a terminal equipment) proper to each terminal equipment and the owner information of each terminal equipment. The owner information is employed in case of requesting an accounting to the user in accordance with the use of the terminal equipment.

In this connection, when the memory card 60 is inserted, the CPU 32A of the television set 32 is adapted to receive respective terminal equipment IDs from other terminal equipment connected by the IEEE 1394 data bus 41 through the data bus 41 and an IEEE 1394 interface 32H, and to include them in the registration request information.

The communication interface 31 receiving the above described registration request information forms a communication path between the server system 20 and the interface 31 through the public wire network 15, and then, transmits the registration request information to the server system 20.

In this case, after the communication interface 31 forms the communication path between the server system 20 and the interface 31, the registration request information can be directly transmitted to the server system 20 from the terminal equipment (for example, the television set 32).

The server computer 22 of the server system 20 retrieves the user ID included in the registration request information among a plurality of user IDs previously registered in the data base 21. When there exists a corresponding user ID, the server computer 22 decides that a user who will use the terminal equipment (the television set 32) of a transmitter of the registration request information is a normal user and the available equipment (the television set 32) included in the registration request information at that time and other terminal equipment (the video tape recorder 33, the audio reproducing system 34, the personal computer 35, the printer 36 and the facsimile telephone set 37) connected to the available equipment are registered in the data base 21 as terminal equipment information in an available environment by employing the terminal equipment IDs thereof.

When the registration of the terminal equipment information in the available environment to the data base 21 is completed, the server computer 22 returns registration response information to the television set 32 as the transmitter of the registration request information to disconnect the communication path.

The television set 32 receiving the registration response information from the server computer 22 transmits the registration response information to the cellular phone 70, and then, cancels a radio communication with the cellular phone 70.

Thus, when the user inputs an instruction for the cellular phone 70 to execute a registration processing to the server within an area where the user can perform a local radio communication between the television set 32 and the cellular phone 70, the television set 32 and other terminal equipment (the video tape recorder 33, the audio reproducing system 34, the personal computer 35, the printer 36 and the facsimile telephone set 37) connected to the television set 32 through the data bus 41 are registered in the data base 21 as terminal equipment information in an available environment corresponding to the user having the cellular phone 70 at that time by the terminal equipment (the television set 32) broadcasting the identifier information proper to the network within the area.

On the other hand, in the company network system 50, a local radio interface 53T is provided in the personal computer 53. When the user transmits the registration processing designating

information by the cellular phone 70 in an area in which the user can perform a local radio communication between the personal computer 53 and the user having the cellular phone 70, the personal computer 53 transmits the user ID, the terminal equipment ID of the personal computer 53 and the equipment terminal ID of the printer 54 connected to the personal computer 53 through the LAN 55 to the fire wall 51 in a manner similar to the registration sequence described above with reference to Fig. 4. Thus, the fire wall 51 can register the user ID and the terminal equipment IDs of the personal computer 53 and the printer 54 in the data base 21 of the server system 20 as the terminal equipment information in the available environment.

Now, an explanation will be given to the configuration of each terminal equipment in the domestic network system 30 and the company network system 50 for recognizing the information of other terminal equipment in the same network system.

For instance, in the domestic network system 30, when the user transmits the registration processing designating information to the server system 20 through the cellular phone 70, the CPU 32A of the television set 32 having the local radio interface 32T transmits, as shown in Fig. 5, a broadcast packet BP to each of the respective terminal equipment (the video tape recorder 33, the audio reproducing system 34, the personal computer 35, the printer 36 and the facsimile telephone set 37) of the domestic system 30 connected together through the IEEE1394 data bus 41 as a

connecting information collection processing for transmitting the registration request information to the server system 20 in accordance with the registration processing designating information from the cellular phone 70. The broadcast packet BP can be recognized only by the terminal equipment which are turned on. Only the terminal equipment of the terminal equipment receiving the broadcast packets BP which are turned on and active return response packets OP to the broadcast packets BP to the television set 32 as the transmitter of the broadcast packets BP.

On the response packets OP, terminal equipment IDs are described by the control parts (CPU, etc.) of the respective terminal equipment. When the television set 32 as the transmitter of the broadcast packets BP receives the response packets OP corresponding to the broadcast packets BP, it detects a terminal equipment which is in an active state (that is to say, a usable state) at this time on the basis of the terminal equipment IDs described on the response packets OP.

In this case, the CPU 32A of the television set 32 activates an inner timer (not shown) at timing when it transmits the broadcast packets BP to the respective terminal equipment and detects only a terminal equipment which returns the response packet OP until preset and prescribed time passes. Thus, the delay of a processing due to the unreturned response packet OP can be avoided.

In such a way, the television set 32 receiving the registration processing designating information from the cellular phone 70 detects a usable terminal equipment among other terminal equipment in the domestic network system 30 connected to the television set 23 through the data bus 41, mounts the terminal equipment ID of the detected terminal equipment on the registration request information (Fig. 4) and transmits the information to the server system 20.

Further, also in the company network system 50, when the personal computer 53 having the local radio interface 53T receives the registration processing designating information from the cellular phone 70, the personal computer 53 transmits the broadcast packets BP to other terminal equipment (printer 54 or the like) connected thereto through the LAN 55 in the company network system 50, so that it can detect a terminal equipment in a usable state at this time, mount the terminal equipment ID representing the terminal equipment on the registration request information and transmit the information to the server system 20.

Here, in the network system 10 shown in Fig. 1, when the provided information (contents) is transmitted to the cellular phone 70 possessed by the user from the Internet service provider 25, the CPU 70A of the cellular phone 70 decides whether or not the received provided information can be displayed on the cellular phone 70. In this case, when a negative result is obtained, this means that the contents of the provided information (the quantity

of information or the like) cannot be displayed by the display means (the display 70I and the speaker 70H) of the cellular phone 70 and the CPU 70A displays on the display 70I that a display cannot be done at this time.

The user seeing the contents of this display inputs the registration processing designating information to the server system 20 through the keyboard 70J of the cellular phone 70. Thus, the CPU 70A transmits the registration processing designating information to the television set 32 transmitting the broadcast packets BP (Fig. 5) at this time.

Thus, the registration processing sequence to the server system 20 described above with reference to Fig. 4 is carried out and the television set 32 and the terminal equipment (the video tape recorder 33, the audio reproducing system 34, the personal computer 35, the printer 36 and the facsimile telephone set 37) connected thereto in the network are registered together with the user ID of the user having the cellular phone 70 in the data base 21 of the server system 20.

The server computer 22 retrieves a terminal equipment capable of displaying the provided information to be transmitted to the user at this time on the basis of the respective functional information of these terminal equipment registered in the data base 21.

In this case, the server computer 22 transmits the information of a receiver to which the provided information is

transmitted to the cellular phone 70 through the public radio network 14. Thus, the user views the information of the receiver displayed on the display 70I of the cellular phone 70, so that he can confirm which kind of equipment is provided in the terminal equipment receiving the provided information.

Here, there will be explained applications employing the network system 10 hereinafter. For example, when a user A employing the terminal equipment of the domestic network system 30 performs a communication with a user B employing the terminal equipment of another network system via the Internet, the communication is carried out on the basis of each available terminal equipment. At this time, when the user B tries to send static image data to the user A, the user A can select a method for displaying the image data from the user B on the terminal equipment of the domestic network system 30 which is being used, or a method for outputting the image data to the printer 36, a method for outputting the image data from the facsimile telephone set 37, etc. In this case, the user B may ask the server system 20 so that he can identify a group of terminal equipment of the user A in an available environment and can also transmit the data directly to the terminal equipment. In such a manner, the information can be provided depending on the status of the user.

Further, for instance, when the user A using the personal computer 53 of the company network system 50 makes a telephone call to the user B who is out, he can talk with the user B

through the cellular phone 70 possessed by the user B. In this case, the talking is carried out without passing through the server system 20. Then, when the user A makes the user B view various kinds of information, the user A instructs the user B to search out output devices (terminal equipment) in the neighborhood.

The user B performs a registration request using the cellular phone 70 for the television set 32 or the facsimile telephone set 37. The terminal equipment such as the television set 32 receiving the registration request transmits a connection request to the server system 20 and registers the terminal equipment (the television set 32, or the like) which is being used and the respective terminal equipment (the video tape recorder 33, the audio reproducing system 34, the personal computer 35, the printer 36 and the facsimile telephone set 37) connected thereto in the network in the server system.

While the user A is telephoning, he specifies the terminal equipment which is being used on the Internet by the user B and the terminal equipment connected thereto in the network and transmits information to the terminal equipment. In such a manner, the user B can view the static image data via the server while talking with the user A on the telephone. In this case, the owner of the terminal equipment of the television set 32 or the facsimile telephone set 37 can perform an accounting request for the user B. Accounting data is accumulated in the data base 21 of the server system 20. The user B sends dues to the owner of the

terminal equipment on the basis of the accumulated accounting information.

Further, another example of an application which utilizes the network system 10 will be described. When the cellular phone 70 of the user performs a registration to the server system 20 from a terminal equipment near it, the server system 20 can grasp the environments of the terminal equipment used by the user and the terminal equipment connected thereto in the network, etc. When the user has a cellular phone, he can directly send audio data to the cellular phone 70. Still further, in the case of data such as image data which cannot be viewed by the cellular phone 70, a prescribed message is transmitted to a display device (the display device of the television set 32 or the like) near the user. The terminal equipment receiving the message transmits the information to the cellular phone 70 which informs the user of a receiver to which the image data is transmitted by a method using sound or text data, etc. The user outputs a usage request to the terminal equipment of the receiver, hence he can view the image data. Thus, information such as the image data, so to speak, follows the user himself, and accordingly, he can receive information in a variety of places.

With the above mentioned configuration, when the user having the cellular phone 70 receives information which cannot be met by the cellular phone 70 within an area in which the user can perform a local radio communication between, for instance, the domestic

network system 30 and him, the user performs a registration to the server system 20 through the cellular phone 70 and the television set 32. At this time, in the data base 21 of the server system 20, the television set 32 capable of being used by the user and the terminal equipment (the video tape recorder 33, the audio reproducing system 34, the personal computer 35, the printer 36 and the facsimile telephone set 37) are registered.

Therefore, when the Internet service provider 25 or the like tries to transmit provided information to the address of the user having the cellular phone 70 based on the user ID, the server computer 22 of the server system 20 is asked about a receiver, so that the server computer 22 selects the equipment of the receiver on which information to be transmitted can be displayed among receiver candidates registered in the data base 21. Information providing means such as the Internet service provider 25 which receives the selected result transmits the provided information to the selected terminal equipment, hence the user can view the information in the designated terminal equipment and transmit desired information.

Thus, according to the above described configuration, even when the user does not have a sufficient equipment for accepting the provided information in places where the user has departed or the like, he registers an equipment located in the neighborhood in the server system 20 so that he can transmit and receive various kinds of information by using the equipment in question.

In the above described embodiment, although there is described a case in which the user himself inputs the registration processing designating information to the cellular phone 70 to request for registration in the server system 20, it should be noted that the present invention is not limited thereto. The cellular phone 70 possessed by the user can constantly receive identifier information from the terminal equipment, the CPU 70A of the cellular phone 70 can detect the moving state of the cellular phone 70 when the identifier information changes and automatically transmit the registration processing designating information to the terminal equipment as the transmitter of identifier information lately received to perform a registration in the server system 20.

In this case, for instance, as shown in Fig. 6, when a user having a cellular phone 70 which receives identifier information B from the terminal equipment 32' of a network 30' moves to enter an area in which the identifier information transmitted from the terminal equipment 32 of the network 30 can be received, the identifier information received in the cellular phone 70 is changed to the identifier information A of the network 30 to transmit the registration processing designating information to the terminal equipment 32 as the transmitter of the identifier information A. Thus, the cellular phone 70 can register the fact that the position of the cellular phone 70 is located in an area

where the terminal equipment of the network 30 can be operated in the server system 20 (Fig. 1).

In this connection, when the area of the network is small, the number of communications is increased to increase wasteful communication. Therefore, the area of the network is widened and a method can be employed that a registration processing in the server system is started only when the cellular phone 70 is present in the same area for prescribed time or longer.

Then, in the case where the area of the network is widened, when the employed terminal equipment is initially registered in the server system 20 as illustrated in Fig. 7, the user describes and registers the address thereof. When the name of the user is temporarily registered, the server side holds the name and address of the user, and therefore, it can register the name of the user after that. The server side issues a segment address corresponding to the address of the user. The segment address indicates a subnetwork or the like in , for example, TCP/IP. The segment address constitutes area information. A terminal address is added to the segment address to carry out a communication. In such a way, is realized an address system for controlling an object and a space to which information and positional information peculiar to the terminal equipment are added.

In this case, the area (segment) of the network is widened, hence the user performs a registration on the basis of a network unit by the method described above with reference to Fig. 4, and

then, registers the information of the terminal equipment used by himself in the server system 20 through the terminal equipment. Thus, the server computer 22 of the server system 20 can specify the terminal equipment employed by the user even when one network system is set within a wide range.

In the above described embodiment, although there is described a case in which the user freely employs the terminal equipment of another person, needless to say, the present invention is not limited thereto. An access can be restricted by using usable conditions for each terminal equipment.

In this instance, two communication protocols between the terminal equipment and the cellular phone 70 and between the terminal equipment and the server are used properly. Specifically, as shown in Fig. 8A, the terminal equipment receiving a connection request from the user (the cellular phone 70) requests the server system 20 to certify whether or not the user is an illegal user. When the user is the illegal user, the server system 20 rejects the use of the terminal equipment. If the user is a proper user, its use will be continued.

Further, as shown in Fig. 8B, the server system 20 can be requested an accounting in case of use of the terminal equipment. For instance, in the case where a fee of 10 yen/minute is set to the server system 20, the owner of the terminal equipment requests an accounting of a price higher than a prescribed amount of money to the cellular phone 70.

The user understanding the fee continuously carries out a processing and performs the processing up to that time. An access restriction for the user is realized by an application in the server system 20, so that a simultaneous control can be done. In this case, as a method for realizing the access restriction in the server side, after the user is certified by, for example, the Common Gateway Interface (CGI) of World Wide Web (WWW), access restriction items may be changed. In this case, the cellular phone 70 can perform a registration in the server system 20 without using the communication interface 31 (Fig. 1) of the domestic network.

Further, in the above described embodiment, although there is described a case in which the terminal equipment used by the user is registered in the server system 20 through the domestic network system 30 or the company network system 50, it should be noted that the present invention is not limited thereto, and a registration request can be transmitted directly to the server system 20 through the public radio network 14 from the cellular phone 70, as shown in Fig. 9.

In this case, since the domestic network system 30 is not connected to a public line, the cellular phone 70 performs a communication with the terminal equipment and the server system 20. Fig. 10 shows a sequence thereof. The user forms a radio link between the terminal equipment and the cellular phone by using the cellular phone 70 to transmit terminal equipment information

obtaining request to the terminal equipment. Then, the cellular phone 70 which gets the terminal equipment information sends the registration processing designating information including the terminal equipment information to the communication interface 31 (Fig. 1).

The communication interface 31 which receives the registration processing designating information sets a radio communication path between the server system 20 and the interface to transmit a registration request to the server system 20. The server system 20 which registers the terminal equipment therein in accordance with the registration request returns a registration response to the cellular phone 70 through the communication interface 31. Thus, the terminal equipment employed by the user is registered in the data base 21 of the server system 20.

Further, in the above described embodiment, although, when the registration request is transmitted to the server system 20 in the terminal equipment of the domestic network system 30 or the company network system 50, other terminal equipment connected to the terminal equipment are detected by broadcasting the broadcast packets BP (Fig. 5), needless to say, the present invention is not limited thereto. The IDs of terminal equipment connected to the same network can be recorded in the terminal equipment in the network system as shown in, for instance, Fig. 11. In this case, when the terminal equipment (for example, the facsimile telephone set 37 in Fig. 11) is newly connected to the network or a

connection terminal is pushed or pulled out in case of movement of the terminal equipment, a broadcast packet BP indicating that the terminal equipment is newly (or again) connected to the network is broadcasted to other terminal equipment connected to the network. Then, the terminal equipment that hold the information of the respective terminal equipment connected to the network receive the broadcast packets BP among other terminal equipment connected to the network and return response packets OP. In this instance, one terminal equipment can hold the information of other terminal equipment. Still further, a plurality of terminal equipment can hold the information of other terminal equipment.

Still further, in the above described embodiment, although there is described a case in which the terminal equipment of the network system existing in the vicinity of the user is registered in the server system 20 by using the cellular phone 70, it should be recognized that the present invention is not limited thereto. For instance, a memory card as external storing means peculiarly possessed by the user can be employed.

In this case, as illustrated in Fig. 12 in which parts corresponding to those in Fig. 1 are designated by the same reference numerals, a part or all of the terminal equipment (for instance, the television set 32 and the personal computer 35) of the terminal equipment connected together in the domestic network system 30 and a part or all of the terminal equipment (for instance, the personal computer 53) of the terminal equipment

connected together in the company network system 50 are provided with memory card interfaces 32C, 35C and 53C. The user connects a memory card 60 possessed by himself to the terminal equipment (the television set 32, the personal computer 35 or the personal computer 53) which exists in the vicinity of the user at that time, so that the terminal equipment to which the memory card 60 is connected performs a registration request to the server system 20.

More specifically, as shown in Fig. 13, the memory card 60 comprises a connector 60B mounted on the slot of each terminal equipment and a memory 60A connected to the connector 60B through a bus BUS.

The memory 60A is adapted to store various kinds of information peculiar to the user having the memory card 60 in areas designated by a memory map shown in Fig. 14. More specifically, a first area AR11 of the storing areas of the memory 60A is an area for storing network connection information for connecting the terminal equipment with the memory card 60 mounted to the network, and is designed to store a user ID and a password to be certified by the Internet service provider 25 and a password for identifying the user which is previously registered by the user employing the memory card 60. The password for identifying the user means information to be compared with a password inputted by the user at this time every time the user mounts the memory card 60 on the terminal equipment, and is

employed in order to decide whether the user at that time is a proper user who employs the memory card 60.

Further, a second area AR12 is an area for storing additional information down-loaded when a variety of services (provision of information) are received on the network from, for instance, the Internet service provider 25 by utilizing the terminal equipment on which the memory card 11 is mounted.

Still further, a third area AR13 is an area for storing information inherent in the user having the memory card 60 such as an address book, schedule data, etc.

Still further, a fourth area AR14 is an area for storing usable information for each terminal equipment with the memory card 60 mounted. For instance, a television program schedule used when the terminal equipment on which the memory card is mounted is the television set 32, Uniform Resource Locator (URL) information for viewing an explanation on the World Wide Web (WWW) for each television program, a sentence being edited which is read and written, a screen or data such as a program which is being developed when the terminal equipment on which the memory card 60 is mounted is the personal computer 35 are respectively stored.

Still further, a fifth area AR15 is an area for storing various kinds of data of a static image or the like. Data stored in the memory 60A of such a memory card 60 is stored in a Type Length Value (TLV) format shown in, for instance, Fig. 15. This format indicates the format of the data stored in the respective

areas (AR11 to AR15) of the memory map described above with reference to Fig. 14. The format is composed of TYPE information D11, data LENGTH information D12 and VALUE information D13 of the data stored for each area (AR11 to AR15).

In this case, as the TYPE information of the data of the first area AR11 of the memory 60A, a code "00" representing network connection information is assigned. As the VALUE information D13 of the first area AR, information such as certification ID (user ID) and a password, etc. is stored. Then, the format of a TLV form is further generated for each of the certification IDs or the passwords stored as the VALUE information D13 and respectively forms TYPE information D13A, data LENGTH information D13B and VALUE information D13C.

Further, in the second area AR12 of the memory 60A, a code "01" representing network additional information is assigned as the TYPE information D11 of the data. As the VALUE information of the second area AR12, is stored information such as a group ID and the password thereof as additional information down-loaded when various kinds of services (provision of information or the like) are received on the network from the Internet service provider 25. The group ID is identifying information utilized when a plurality of users employing the terminal equipment form a specific group. Then, the format of a TLV form is further generated for each of group IDs and passwords thereof stored as the VALUE information

D13 and respectively forms TYPE information D13A, data LENGTH information D13B and VALUE information D13C.

Still further, in the third area AR13 of the memory 60A, a code "02" expressing personal information is assigned as the TYPE information D11 of data. As the VALUE information of the third area AR13, information such as the data of a telephone directory, an address book and personal schedule data, etc. which are peculiarly employed by the user having the memory card 60 is stored. Then, the format of a TLV form is further generated for each of the data of the telephone directory, the address book and the personal schedule data, etc. and respectively forms TYPE information D13A, data LENGTH information D13B and VALUE information D13C.

Still further, in the fourth area AR14 of the memory 60A, as the TYPE information D11 of data, a code "03" representing information for each terminal is assigned. As the VALUE information of the fourth area AR14, information such as the attributes of various kinds of terminal equipment is stored as information used for each terminal equipment on which the memory card 11 is mounted. Then, the format of a TLV form is further generated for each information such as the attributes of various kinds of terminal equipment stored as the VALUE information D13, and respectively forms TYPE information D13A, data LENGTH information D13B and VALUE information D13C.

Furthermore, in the fifth area AR15 of the memory 60A, various kinds of data arbitrarily read and written are stored as the TYPE information D11 of data. Then, the format of a TLV form is further generated for each of the various kinds of data stored as the VALUE information D13, and respectively forms TYPE information D13A, data LENGTH information D13B and VALUE information D13C.

As described above, in the memory card 60, the characteristic information (a certified ID, a password, etc.) for specifying the user having the memory card 60 and various kinds of information (personal information, information for each terminal equipment, etc.) peculiarly used by the user are stored. When the user operates each terminal equipment, he mounts the memory card 60 on an operation terminal equipment so that he informs the Internet service provider 25 of network connection information (the certified ID, the password, etc.) as the characteristic information for specifying him through the operation terminal equipment. The Internet service provider 25 is designed to register the coordinate relation between the user and the terminal equipment operated by the user at that time in the data base 21 through the server computer 22 of the server system 20.

As shown in Fig. 16 in which parts corresponding to those in Fig. 3 are denoted by the same reference numerals, the television set 32 has a memory card interface 32C for connecting the memory card 60. When the user employing the television set 32 mounts the

memory card 60 on a slot for the memory card (not shown), a contact for detecting the memory card 60 is connected to the contact of the memory card interface 32C, so that an interface processing part 32N detects the change (change from logic "L" level to logic "H" level) of a signal level (from logic "L" level to logic "H" level). Thus, the interface processing part 32N transmits an interrupt signal to the CPU 32A to perform an interrupt processing. Thus, the CPU 32A detects the connection of the memory card 60. In this connection, the interface processing part 32N is a processing block for performing a protocol processing on the basis of an interface specification in transmitting data to and receiving it from the memory card 60. Thus, the interface processing part 32N is brought to a state in which it can read information peculiar to the user stored in the memory card 60.

The memory card interface 32C is composed of a serial interface and has at least three data lines. A first data line transmits a clock signal upon transmission of data. A second data line transmits a status signal necessary upon transmission of data. A third data line serially transmits data written in and read from the memory card 60.

Then, the CPU 32A reads the data in the memory card 60 through the memory card interface 32C and transmits it to the server computer 22 of the server system 20 through the communication interface 32D, the communication interface 31 (Fig.

12), the public wire network 15 (Fig. 12) and the Internet service provider 25 to carry out a registration request to the server computer 22.

A sequence of the registration request is shown in Fig. 17. In Fig. 17, when the user inserts the memory card 60 into the terminal equipment near the user, for instance, the television set 32, the CPU 32A of the television set 32 transmits a user ID, a password read from the memory card 60, a terminal equipment ID peculiar to the television set read from the memory 32B of the television set 32, terminal equipment IDs which represent other terminal equipment (the video tape recorder 33, the audio reproducing system 34, the personal computer 35, the printer 36 and the facsimile telephone set 37) connected to the television set 32 in the network through the data bus 41 and a registration request including information representative of the data processing capacity each terminal equipment and address information to the interface 31. The information (the terminal equipment IDs) of other terminal equipment connected together in the network is collected by the method using the broadcast packets BP described above with reference to Figs. 5 and 11.

In Fig. 17, the communication interface 31 which receives the registration request sets a communication path between the server system 20 and the interface 31, and then, transmits the registration request to the server system 20. In the registration request, are included the user ID, the password, the terminal

equipment ID peculiar to the television set, terminal equipment IDs representative of other terminal equipment (the video tape recorder 33, the audio reproducing system 34, the personal computer 35, the printer 36 and the facsimile telephone set 37) connected to the television set 32 in the network through the data bus 41 and the information indicative of the data processing capacity of the respective terminal equipment or the address information.

The server computer 22 of the server system 20 which receives the registration request registers the contents of the registration request in the data base, then returns a registration response to the television set 32 through the communication interface and cancels the communication path.

Thus, in the data base 21 of the server system 20, the information of the terminal equipment (the television set 32) employed by the user and the terminal equipment connected thereto in the network are registered. For instance, when prescribed provided information (contents) is transmitted to the user from the Internet service provider 25, the Internet service provider 25 temporarily retrieves the terminal equipment (for example, the television set 32) registered in the server system 20 so as to meet the user and transmits the provided information to the network system including the terminal equipment.

In this case, the server computer 22 selects the terminal equipment having a capability for displaying the provided

information among a group of terminal equipment connected to the television set 32 in the network on the basis of the quantity of the provided information used for transmission and transmits the provided information to the terminal equipment thus selected. Further, the server computer 22 transmits information indicative of the terminal equipment serving as the receiver of the provided information to the terminal equipment (the television set 32) to which the user connects the memory card 60 at that time, and informs the user of the receiver of the provided information. Thus, the user employs the terminal equipment as the receiver of the provided information so that he can receive the provided information from the Internet service provider 25 or the like.

Further, in the above described embodiment, although there is described a case in which the memory card 60 is inserted into each of the terminal equipment of the domestic network system 30 or the company network system 50 and the terminal equipment used by the user is registered in the server system 20, needless to say, the present invention is not limited thereto. The memory card 60 can be inserted into the cellular phone 70.

In this instance, in Fig. 18 in which parts corresponding to those in Fig. 12 are denoted by the same reference numerals, the cellular phone 70 is provided with a memory card interface 70C. When the memory card 60 is inserted into the memory card interface 70T, the type, the telephone number, the electronic mail address, the function, or the like of the equipment which is being used by

the user (in this case, the cellular phone 70) are up-loaded in the server system 20. Thus, the server system 20 can control the equipment (for instance, the cellular phone 70) used by the user, the functions of the terminal equipment, a method for connecting it to the user, or the like.

In this case, the user using the cellular phone 70 or other terminal equipment initially connects the memory card 60 peculiarly possessed by the user to the terminal equipment such as the cellular phone 70 used by the user at that time, so that each user registers the terminal equipment used by himself in the server system 20.

Under this state, as shown in Fig. 19, a transmitter user initially asks the server system 20 about a terminal equipment currently employed by a receiver user with which the transmitter user tries to communicate and a connection method to the terminal equipment. For instance, in the case where the receiver user desires a response through the cellular phone of the receiver user, when the transmitter and receiver users have the terminal equipment of the same capacity, a communication via the server system 20 is not necessary. Therefore, the server system 20 sends to the transmitter user a response that a direct communication can be performed.

In this case, the terminal equipment (for instance, the cellular phone 70) employed by the transmitter user temporarily disconnects a link with the server system 20 and newly performs a

processing for calling the receiver user on the phone. At this time, the cellular phone 70 of the transmitter user automatically establishes a communication session to the receiver user, so that the transmitter user looks as if he could communicate with the receiver user in accordance with a series of processings. In this case, in the case where the server system 20 is provided in a telephone exchange system, a processing for transmitting information from the cellular phone 70 of the transmitter user to the cellular phone of the receiver user is omitted and a communication with the cellular phone of the receiver user is established by the exchange system.

As described above, the transmitter user directly communicates with the receiver user without passing through the server system 20, hence the processing load of the server system 20 is reduced.

Further, when the receiver user employs the personal computer 35 (or 53), the transmitter user who employs the cellular phone 70 requires an information converting process in the server system 20 upon transmission of information.

Accordingly, in this case, the server system 20 processes a transmission from the transmitter user as a communication via the server system 20 and informs the transmitter user that the receiver user employs the personal computer and data can be received only by mail.

The transmitter user recognizes the information displayed on the cellular phone 70 so that he switches to a communication

method suitable for the transmission by mail and sends the information. In this connection, in place of a method in which the transmitter user switches to a communication method suitable for the terminal equipment used by the receiver user, the server system 20 can, for example, convert audio data to text data to transmit the text data to the terminal equipment used by the user, or can add the audio data to the text data to transmit the data thus added to the terminal equipment used by the receiver user.

Thus, even when the terminal equipment used by the receiver user is, for example, the personal computer, the receiver user can receive information from the transmitter user through the terminal equipment used by the user without employing the telephone set.

Here, a response message from the server system 20 is formed on the basis of an Hyper Text Markup Language (HTML) or a Compact-HTML, an HDML (Wireless Application Protocol (WAP)) so as to meet various kinds of terminal equipment. According to the hyper text language for a portable terminal, a tag for connecting the cellular phone as a telephone set or a facsimile is specified. However, in the hyper text language, a processing instruction for directly telephoning does not exist. Accordingly, in the terminal equipment such as the cellular phone 70, is provided a command set for directly telephoning or performing a mail process in the hyper text language received from the server system 20.

For instance, information such as <DirecttelTo >03-1111-2222</DirectTelTO > is presented to the terminal equipment such as

the cellular phone 70 from the server system 20, and accordingly, the information can be processed in the cellular phone 70 and the receiver user can be directly called on the phone. Further, if the transmitter user has information to be transmitted by mail, information such as <DirectMailTo> abcde@fgh.com </DirectMailTo > is supplied to the cellular phone 70 from the server system 20. At this time, contents or voice inputted by the transmitter user is subjected to a mail processing and transmitted to a mail server.

As mentioned above, response data from the server system 20 is converted into the hyper text language, hence while a communication processing is performed, the text or image data can be displayed on the portable terminal equipment and an effective user interface is achieved.

In this connection, in Fig. 18, the terminal equipment used by the user is not limited to the cellular phone 70 and various kinds of other terminal equipment can be employed. In addition, a manual input or a radio input from other equipment can be carried out in place of the memory card 60.

Further, in the above described embodiment, although the network system 10 employs the portable terminal equipment (cellular phone 70 (Fig. 1)) having a telephone function, it should be noted that the present invention is not limited thereto. A variety of portable terminal equipment having the registering function described above with reference to Fig. 4, in place of the cellular phone 70.

Still further, in the above described embodiment, although there is described a case in which the server system 20 and the Internet service provider 25 are independently provided, needless to say, the present invention is not limited thereto. They can be integrally formed.

As described above, according to this embodiment, the information of the terminal equipment used by the user among the terminal equipment connected to the network is registered in prescribed registering means and the transmission path from the terminal equipment of a transmitter to the terminal equipment of a receiver is determined, so that the information can be assuredly transmitted to the terminal equipment of the receiver in the transmission path suitable for the information without the consciousness of the user.

Further, according to the present invention, the information of a terminal equipment used by a user and a terminal equipment connected to the terminal equipment used by the user among terminal equipment connected to the network is registered in prescribed registering means together with information for identifying the user as available environmental information, and provided information is transmitted to a terminal equipment specified by the registered available environmental information. Accordingly, the environment of the terminal equipment used by the user can be readily grasped. Therefore, the provided information

WHAT IS CLAIMED IS:

1. A communication system for exchanging information through a network, wherein

the information of the pieces of terminal equipment connected to said network system is registered in information control means connected to said network system, and

when prescribed information is transmitted to the terminal equipment of a receiver connected to said network from the terminal equipment of a transmitter connected to said network, a transmission path for transmitting said information from said terminal equipment of the transmitter to said terminal equipment of the receiver is determined on the basis of said registered information.

2. The communication system according to Claim 1, wherein

said information transmitted from said terminal equipment of the transmitter is converted into information which can be received by said terminal equipment of the receiver.

3. An information controller connected to a network comprising:

registering means for registering the information of terminal equipment connected to said network system; and

communication path determining means for determining the transmission path of said information from said terminal equipment of a transmitter to said terminal equipment of a receiver on the

basis of said registered information when prescribed information is transmitted to said terminal equipment of the receiver connected said network from the terminal equipment of the transmitter connected to said network.

4. The information controller according to Claim 3, wherein said information control means is provided with converting means for converting said information transmitted from said terminal equipment of the transmitter into information capable of being received by said terminal equipment of the receiver.

5. A network system for exchanging information via a network, wherein the information of terminal equipment used by a user and terminal equipment connected to said terminal equipment used by the user among the pieces of terminal equipment connected to said network is registered in prescribed registering means together with information for identifying said user as available environmental information, and

provided information is transmitted to a terminal equipment specified by said registered available environmental information.

6. The network system according to Claim 5, wherein said terminal equipment having display means for displaying prescribed provided information is selected on the basis of the

available environmental information registered in said registering means and said provided information is transmitted to said selected terminal equipment.

7. The network system according to Claim 5, wherein
said available environmental information includes owner information of said terminal equipment.

8. The network system according to Claim 5, wherein
said available environmental information is registered in said registering means in accordance with a registration request through said terminal equipment from prescribed portable terminal means.

9. The network system according to Claim 5, wherein
said available environmental information is registered in said registering means in accordance with the registration request transmitted from said terminal equipment, when prescribed external storing means is connected to said terminal equipment.

10. An information controller connected to a network comprising:
registering means for registering the information of terminal equipment used by a user and terminal equipment connected to said terminal equipment used by said user among the pieces of terminal

14. The terminal equipment according to Claim 13 comprising:

identifying information reading means connected to prescribed external storing means for reading out the identifying information of said user from the connected external storing means, wherein

said read identifying information of said user is transmitted to said network as said available environmental information.

15. The terminal equipment according to Claim 13 comprising:

identifying information receiving means for receiving the identifying information of said user transmitted from prescribed portable terminal means, wherein

said received identifying information of said user is transmitted to said network as said available environmental information.

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ABSTRACT OF THE DISCLOSURE

In a communication system and an information controller terminal equipment of a user, that is to say, a receiver of information is specified in a server side. And in a network system, a terminal equipment and a network server a position of a user is specified in a server side. The information of a terminal equipment used by the user among the pieces of terminal equipment 32, 33, 34, 35, 36, 37, 53, 54 and 70 connected to a network 10 is registered in prescribed registering means 20 and a transmission path from the terminal equipment 70 of a transmitter to the terminal equipment 53 of a receiver is determined on the basis of the registered information of the terminal equipment, so that the user can assuredly transmit the information to the terminal equipment of the receiver in the transmission path suitable for the information without any consciousness of the user. Further, the information of the terminal equipment used by a user and the terminal equipment connected to the terminal equipment used by the user among the pieces of terminal equipment 32, 33, 34, 35, 36, 37, 53 and 54 connected to the network is registered in prescribed registering means 21 together with information for identifying the user as available environmental information, and provided information is transmitted to the terminal equipment specified by the registered available environmental information. Accordingly, the environment of the terminal equipment used by the user can be

readily grasped. Thus, the provided information can be assuredly transmitted to users present in various terminal environments.

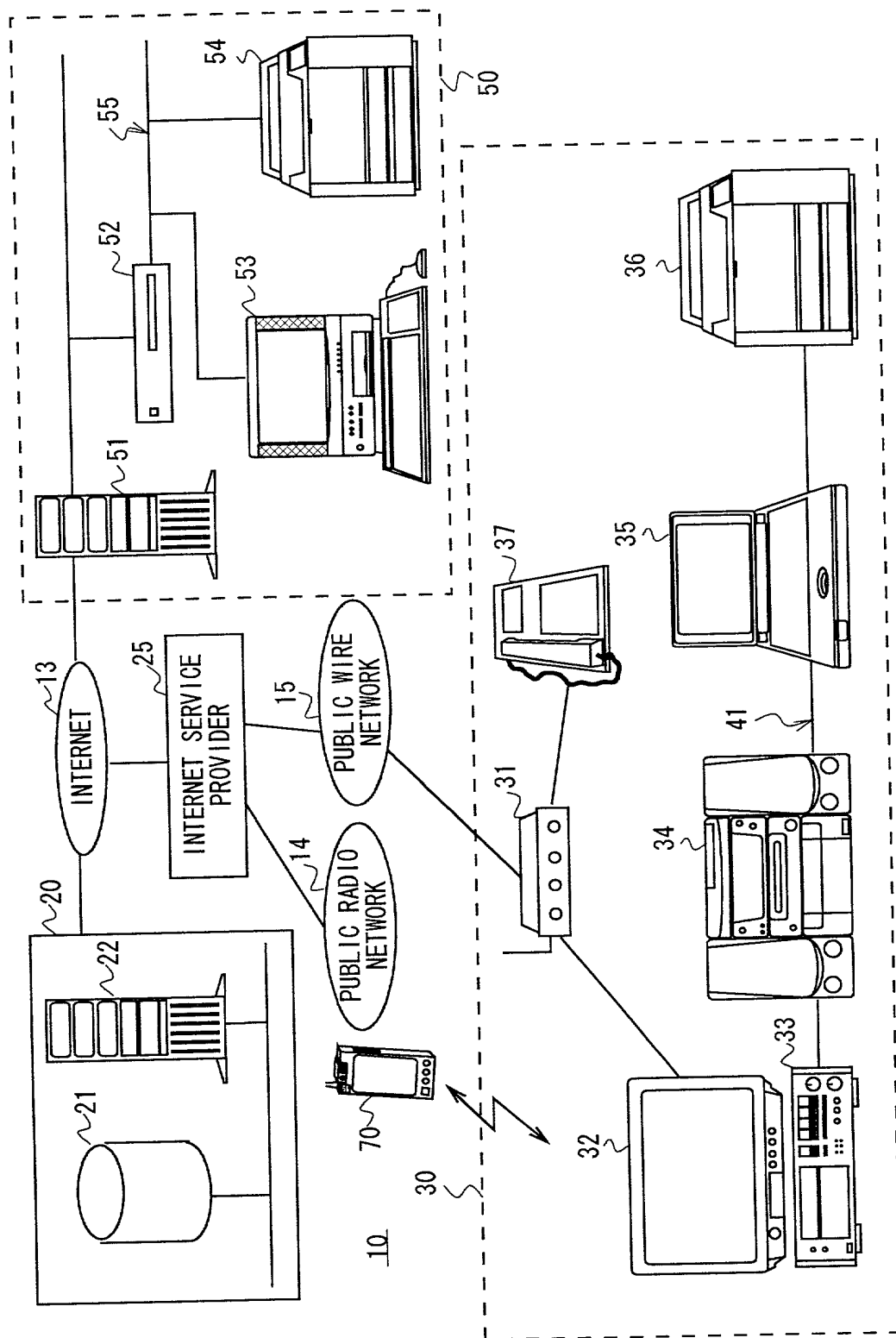


FIG. 1

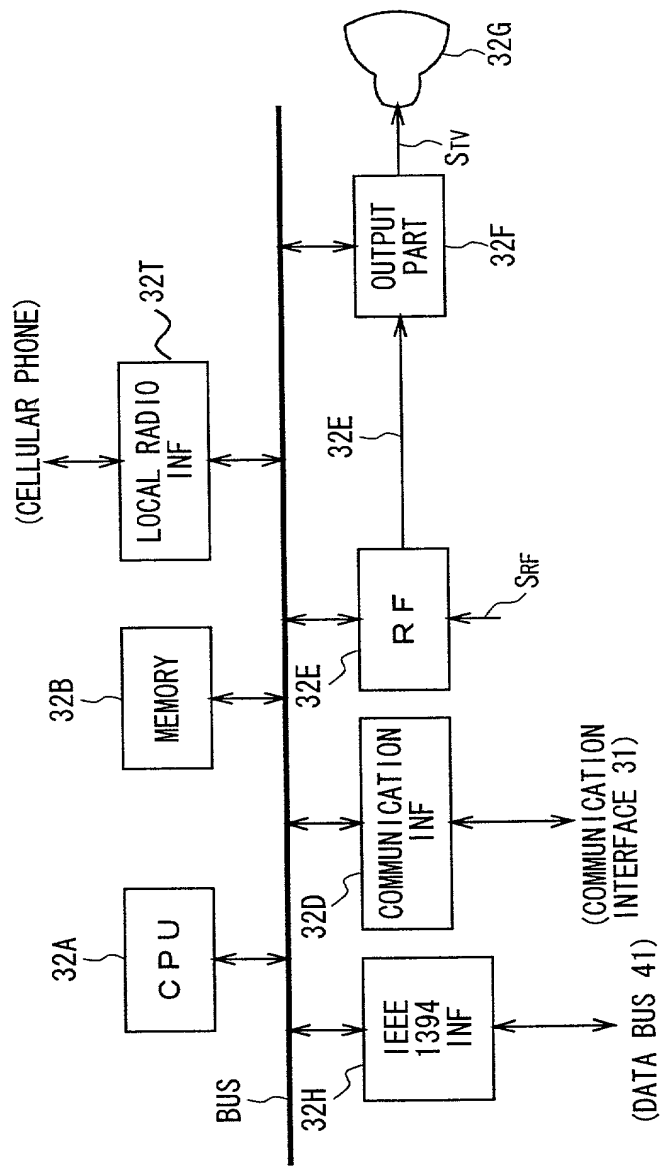


FIG. 3

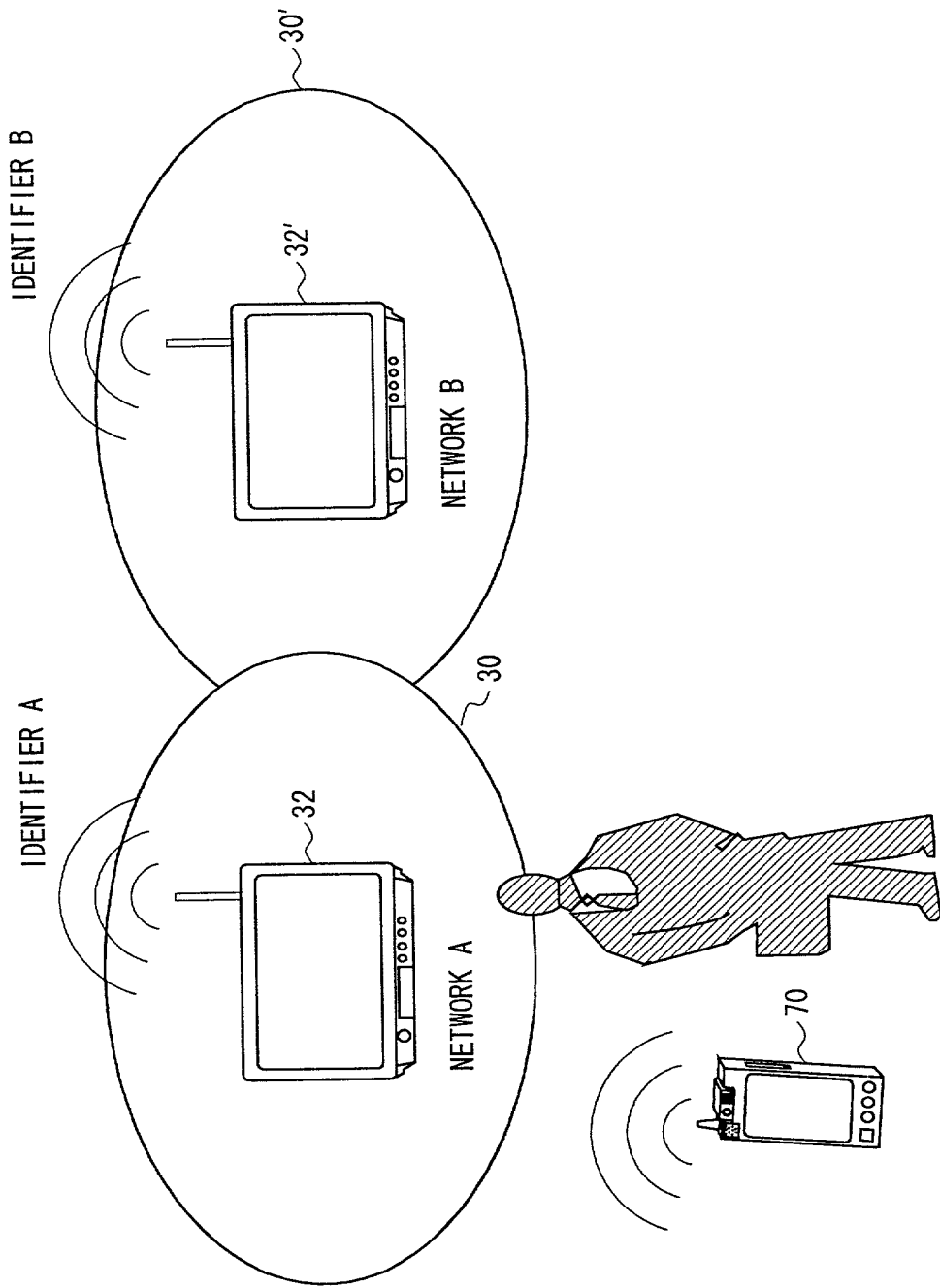


FIG. 6

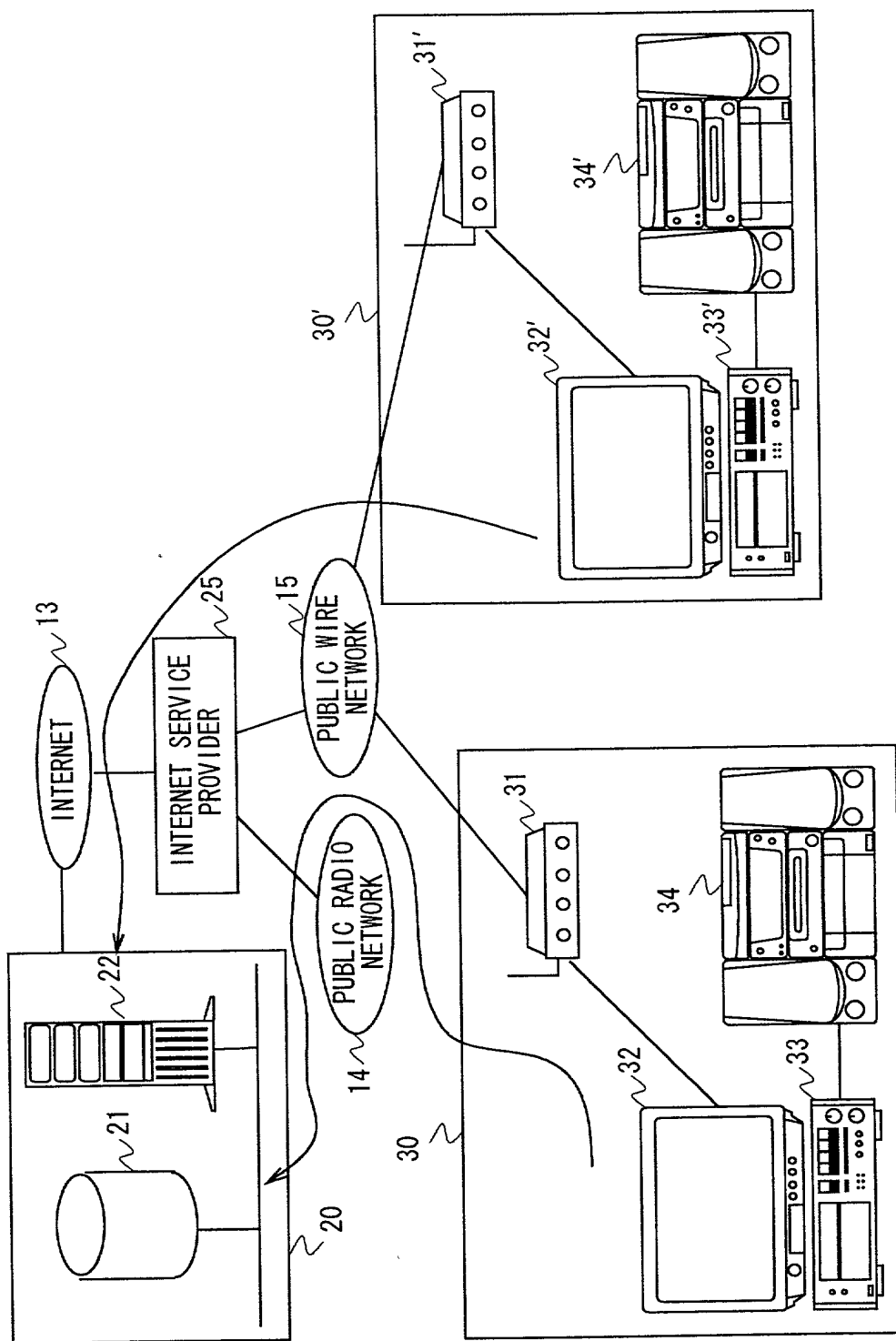
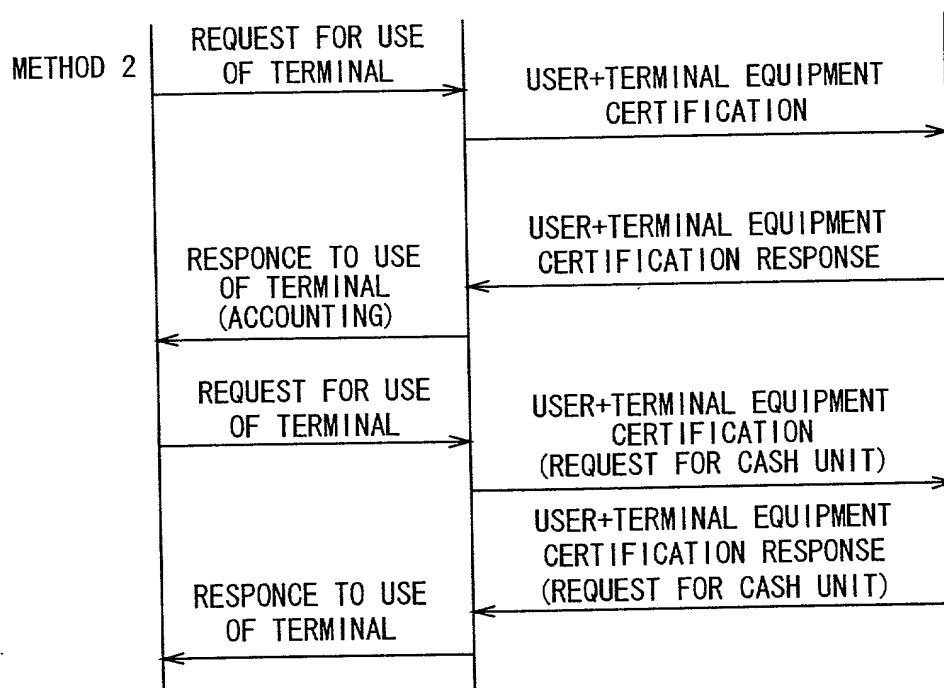


FIG. 7



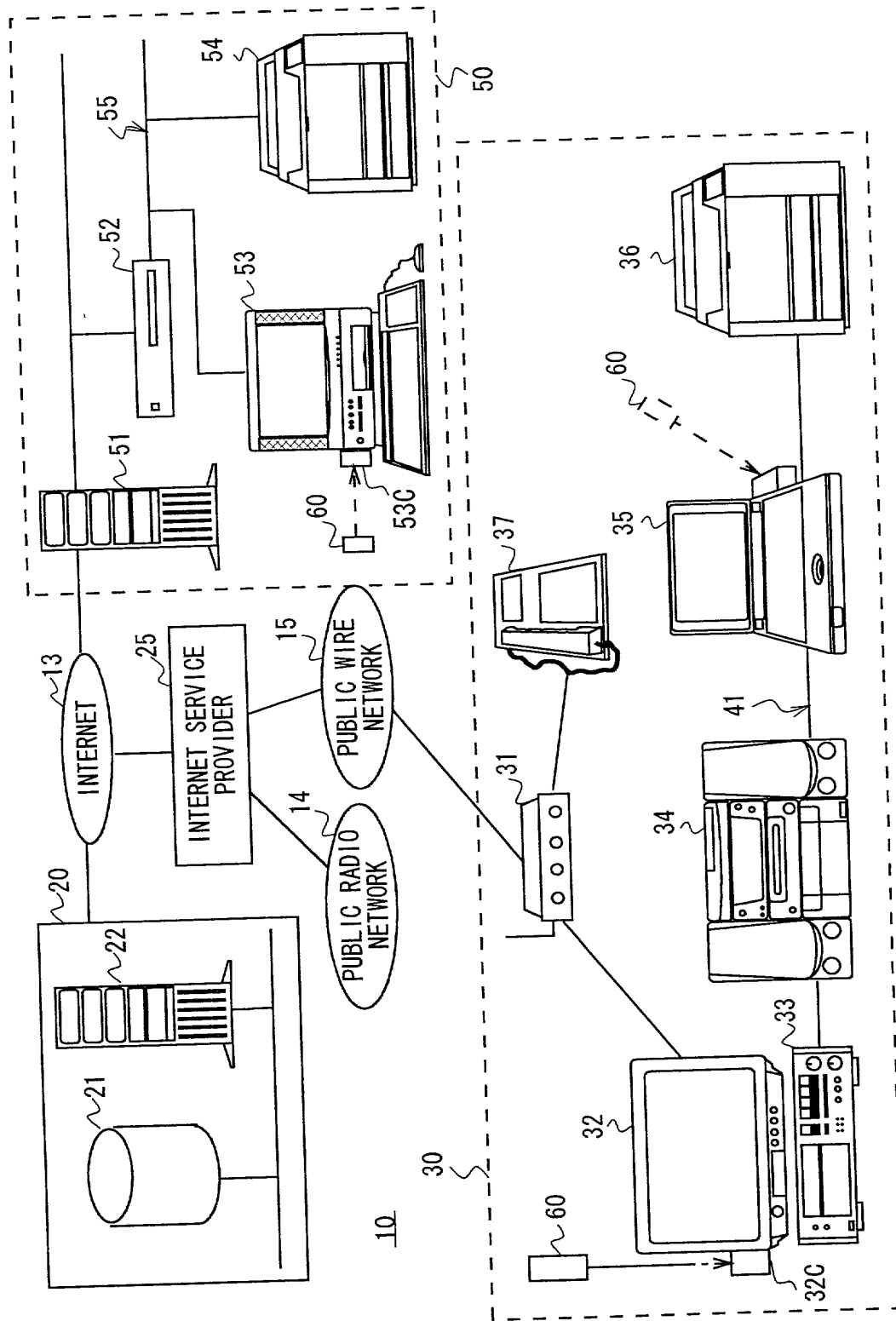


FIG. 12

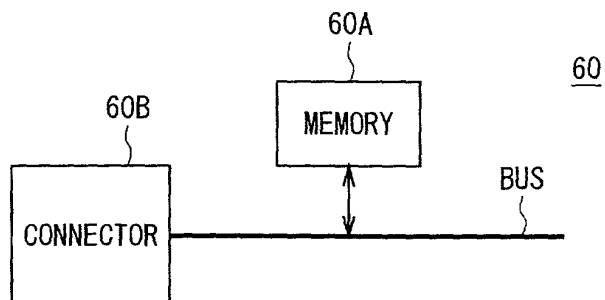


FIG. 13

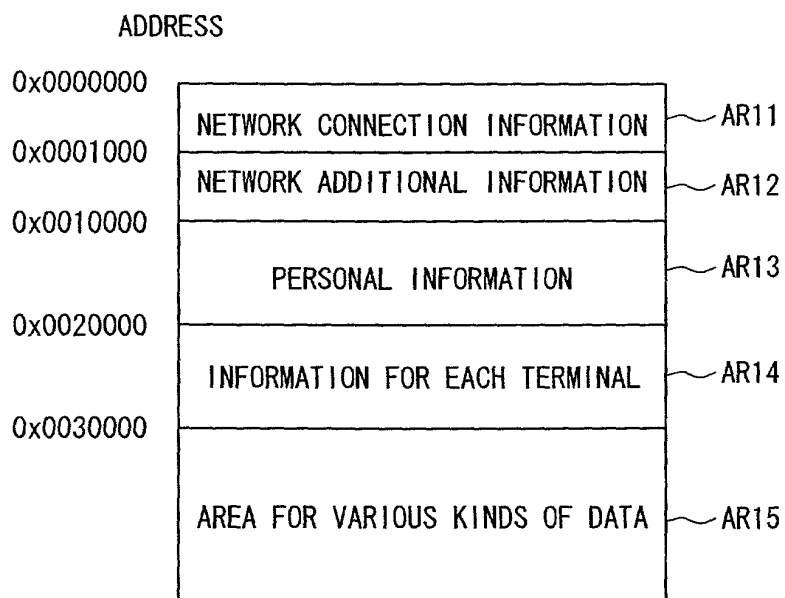


FIG. 14

The diagram shows a horizontal bar representing a data structure. It is divided into three main sections: 'TYPE', 'LENGTH', and 'VALUE'. Below 'TYPE' is the label 'D11'. Below 'LENGTH' is the label 'D12'. Below 'VALUE' is the label 'D13'. A dashed line extends from the boundary between 'LENGTH' and 'VALUE' down to a second, more detailed bar. This second bar is divided into four segments: 'T', 'L', 'V', and an ellipsis '...'. Below 'T' is the label 'D13A', below 'L' is 'D13B', and below 'V' is 'D13C'.

FIG. 15

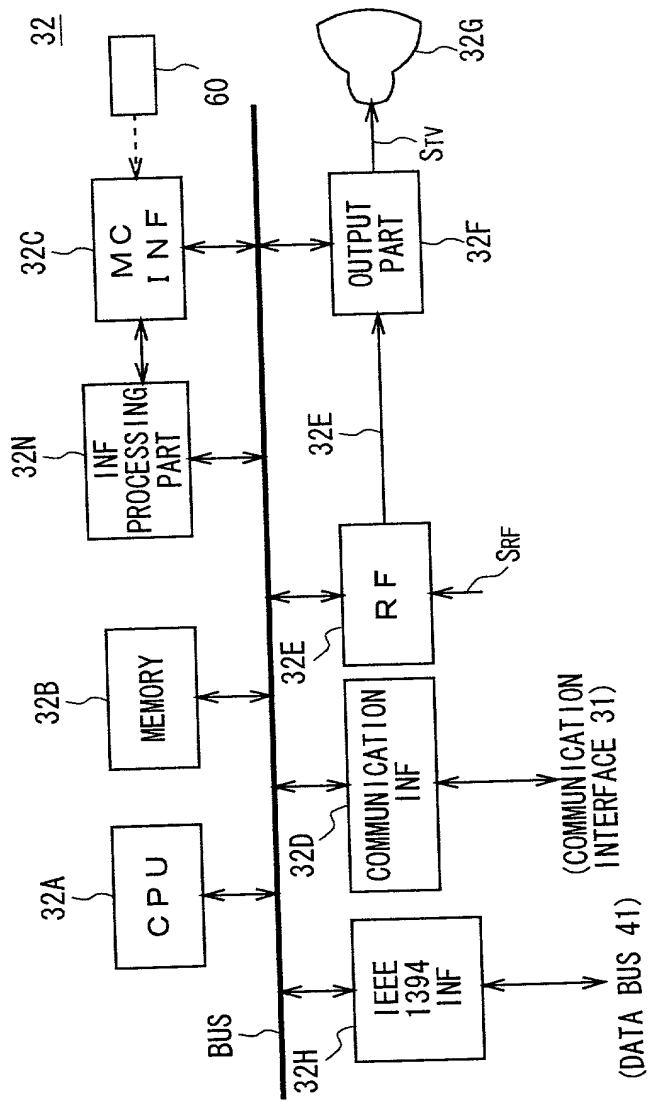


FIG. 16

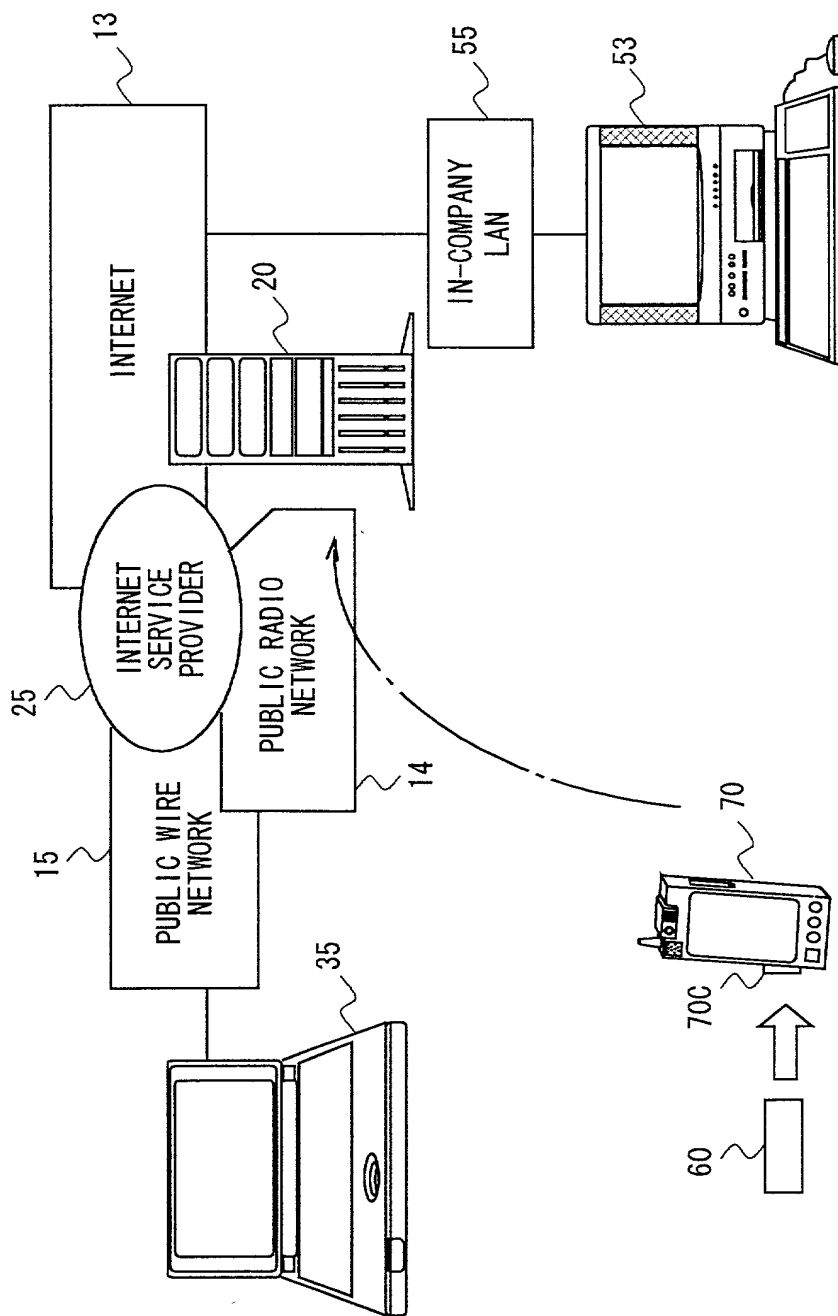


FIG. 18

SONY-T0708

BY EXPRESS MAIL NO. EL387308127US

Declaration and Power of Attorney For Patent Application

特許出願宣言書及び委任状

Japanese Language Declaration

日本語宣言書

下記の氏名の発明者として、私は以下の通り宣言します。	As a below named inventor, I hereby declare that:
私の住所、私書箱、国籍は下記の私の氏名の後に記載された通りです。	My residence, post office address and citizenship are as stated next to my name.
下記の名称の発明に関して請求範囲に記載され、特許出願している発明内容について、私が最初かつ唯一の発明者（下記の氏名が一つの場合）もしくは最初かつ共同発明者であると（下記の名称が複数の場合）信じています。	I believe I am the original, first and sole inventor (if only one named is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled. COMMUNICATION SYSTEM, NETWORK SYSTEM, INFORMATION CONTROLLER AND TERMINAL EQUIPMENT
上記発明の明細書（下記の欄でx印がついていない場合は、本書に添付）は、 <input type="checkbox"/> 月 日に提出され、米国出願番号または特許協定条約国際出願番号を _____ とし、 （該当する場合） _____ に訂正されました。	the specification of which is attached hereto unless the following box is checked: <input type="checkbox"/> was filed on _____ as United States Application Number or PCT International Application Number _____ and was amended on _____ (if applicable).
私は、特許請求範囲を含む上記訂正後の明細書を検討し、内容を理解していることをここに表明します。	I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.
私は、連邦規則法典第37編第1条56項に定義されたとおり、特許資格の有無について重要な情報を開示する義務があることを認めます。	I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56.
私は、米国法典第35編119条(a)-(d)項又は365条(b)項に基づき下記の、米国以外の国の少なくとも一カ国を指定している特許協力条約365(a)項に基づき国際出願、又は外国での特許出願もしくは発明者証の出願についての外国優先権をここに主張するとともに、優先権を主張している、本出願の前に出願された特許または発明者証の外国出願を以下に、枠内をマークすることで、示しています。	I hereby claim foreign priority under Title 35, United States Code, Section 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed.
Prior Foreign Application(s) 外国での先行出願 P11-178994 (Number) (番号)	Priority Not Claimed 優先権主張なし 24 June 1999 (Day/Month/Year Filed) (出願年月日)
Japan (Country) (国名)	

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<u>P11-178995</u> (Number) (番号)		<u>Japan</u> (Country) (国名)		<u>24 June 1999</u> (Day/Month/Year Filed) (出願年月日)	
私は、第35編米国法典119条(e)項に基いて下記の米 国特許出願規定に記載された権利をここに主張いたします。		I hereby claim the benefit under Title 35, United States Code, Section 119(e) of any United States provisional application(s) listed below.			
<u>(Application No.)</u> (出願番号)		<u>(Filing Date)</u> (出願日)		<u>(Application No.)</u> (出願番号)	
				<u>(Filing Date)</u> (出願日)	
私は、下記の米国法典第35編120条に基いて下記の米 国特許出願に記載された権利、又は米国を指定している特許 協力条約365条(c)に基づき権利をここに主張します。また、本出願の各請求範囲の内容が米国法典第35編112条 第1項又は特許協力条約で規定された方法で先行する米国特 許出願に開示されていない限り、その先行米国出願書提出日 以降で本出願書の日本国内または特許協力条約国際提出日ま での期間中に入手された、連邦規則法典第37編1条56項 で定義された特許資格の有無に関する重要な情報について開 示義務があることを認識しています。		I hereby claim the benefit under Title 35, United States Code, Section 120 of any United States application(s), or 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of Title 35, United States Code, Section 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of application.			
<u>(Application No.)</u> (出願番号)		<u>(Filing Date)</u> (出願日)		<u>(Status: Patented, Pending, Abandoned)</u> (現況：特許許可済、係属中、放棄済)	
<u>(Application No.)</u> (出願番号)		<u>(Filing Date)</u> (出願日)		<u>(Status: Patented, Pending, Abandoned)</u> (現況：特許許可済、係属中、放棄済)	
私は、私自身の知識に基づいて本宣言書中で私が行なう表 明が真実であり、かつ私の入手した情報と私の信じていること、さらに故 意になされた虚偽の表明及びそれと同等の行方は米国法典第 18編第1001条に基づき、罰金または拘禁、もしくはそ の両方により処罰されること、そしてそのような故意による 虚偽の声明を行なえば、出願した、又は既に許可された特許 の有効性が失われることを認識し、よってここに上記のごと く宣誓を致します。		I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may be jeopardize the validity of the application or any patent issued thereon.			

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委任状： 私は下記の発明者として、本出願に関する一切の手続きを米特許商標局に対して遂行する弁理士または代理人として、下記の者を指名いたします。（弁理士、または代理人の氏名及び登録番号を明記のこと）		POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark office connected therewith (<i>list name and registration number</i>)	
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		Cameron A. King Kyla L. Harriel Mayumi Maeda Michael R. Ward Roger S. Sampson Charles L. Hamilton Andrew V. Smith Eric N. Hoover J. Thomas McCarthy Joel G. Ackerman	41,897 41,815 40,075 38,651 44,314 42,624 43,132 37,355 22,420 24,307
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